

# Exploring Racial and Sociodemographic Trends in Physician Behavior, Physician Trust and Their Association with Blood Pressure Control

Mustafa M. Rawaf, MA and Nancy R. Kressin, PhD

**Financial support:** This research was supported by grants from the Department of Veterans Affairs (VA) Health Services Research and Development Service (TRH01-038, N. Kressin, P.I.). Dr. Kressin is a research career scientist in the Department of Veterans Affairs, Health Services Research & Development (RCS 02-066-1).

The views expressed in this article are those of the authors and do not necessarily represent the views of the Department of Veterans Affairs.

Racial disparities in several facets of healthcare have been widely documented, showing that African Americans face disproportionately high health risks when compared to whites. With respect to hypertension, 40% of the ≥36 million African Americans are affected. We examined the correlation between the patient–physician relationship and the racial disparities in healthcare. We hypothesized that increased physician counseling would lead to higher patient trust and, thus, a greater likelihood of having controlled blood pressure. Four-hundred-sixty black and 333 white Veteran Affairs (VA) patients previously diagnosed with hypertension were included. Patients with a systolic reading ≥140 mmHg and/or a diastolic reading ≥90 mmHg at a recent doctor visit were considered to have uncontrolled blood pressure. By using patient exit interviews (PEIs), we quantified the number of counseling behaviors performed by physicians. Patient trust in physician was measured by validated questions answered on a 1–5 agreement scale. Results showed no racial disparity in blood pressure control. While blacks were found to receive more counseling, whites reported higher trust. Controlling for sociodemographic factors, we found that regardless of race, higher PEI scores were associated with higher trust; however, they were also associated with uncontrolled blood pressure. The association of physician behavior with blood pressure was not mediated by trust. We were unable to make direct cause-and-effect conclusions because the measures were recorded from a one-time questionnaire. Future research should focus on uncovering causal relationships, allowing physicians to work towards ending the established healthcare disparities.

**Key words:** race/ethnicity ■ health disparities ■ hypertension

© 2007. From Boston University School of Medicine (Rawaf, submitted in partial fulfillment of the requirements for the degree of master of arts, 2006); Center for Health Quality, Outcomes and Economic Research (a VA Health Services Research and Development National Center of Excellence), Bedford VA Medical Center, Bedford, MA (Kressin); and Division of General Internal Medicine, Boston University School of Medicine, Boston, MA (Kressin). Send correspondence and reprint requests for *J Natl Med Assoc.* 2007;99:1248–1254 to: Mustafa M. Rawaf, 4113 Ironwood Drive, Chino Hills, CA 91709; phone: (714) 514-4865; e-mail: mustafa.rawaf@gmail.com

## INTRODUCTION

Racial disparities in American healthcare have been broadly documented in the medical literature.<sup>1–5</sup> The effects of these disparities have been shown to be far reaching, with deep economic, personal, and social implications. Minorities utilizing the American healthcare system are less likely to receive high-quality care and are thus less likely to have their health conditions appropriately treated, thereby leading to the development of future health problems. This creates a trend of higher healthcare costs not only for the patients involved but the taxpayers or employers who are helping support the healthcare service.<sup>6</sup> At a personal level, healthcare disparities can lead to increased morbidity, disability and lost productivity.<sup>7</sup>

A spotlight was placed on these racial disparities beginning in the late 1980s and early 1990s, prompting several reforms by the government to deal with the emerging issue. Examples of proposed solutions included increasing funding for treatment of minorities, ensuring adequate minority representation in clinical trials and setting up offices of minority health in several states.<sup>5</sup> Additionally, publicized programs were implemented including the Racial and Ethnic Approaches to Community Health (REACH 2010).<sup>8</sup> Launched in 1999, this initiative was designed to eliminate health disparities in six areas: cardiovascular disease, immunizations, breast and cervical cancer screening and management, diabetes, HIV/AIDS and infant mortality. Despite these extensive efforts, it is evident that racial disparities in the American healthcare system continue.<sup>5</sup>

With a population of >36 million, African Americans make up 13–14% of the U.S. population.<sup>9</sup> Several studies have documented the disadvantages they face

when seeking medical attention.<sup>10-17</sup> According to statistics from the American Heart Association, the leading cause of death for African Americans is cardiovascular disease, which kills 36.4% of the  $\geq 290,000$  African Americans who die each year. When compared to whites, African Americans are more likely to have high blood pressure, less likely to engage in physical activity, more likely to have diabetes, and more likely to be overweight or obese. All of these factors increase the risk of cardiovascular disease. Forty percent of African Americans are affected with high blood pressure, which ranks among the highest rates of hypertension for blacks in the world.<sup>18,19</sup> The racial disparity surrounding hypertension control has been shown to be a significant contributor to the difference in life expectancy between whites and blacks.<sup>20</sup> Unfortunately, the extensive amount of literature on racial differences in healthcare has yet to lead us to the roots of this ever-growing problem. In order to effectively work towards a healthcare system which has no racial bias, the sources of the disparities should be identified and addressed methodically.

It has been established that the patient–physician relationship affects outcomes of medical encounters.<sup>21,22</sup> Thus, we sought to examine the role of the patient–physician relationship in racial disparities currently plaguing healthcare. In other words, do African Americans and whites experience a visit with their physician differently? If so, does that difference lead to variability in blood pressure control? Two key components of the physician–patient relationship are the physician’s behavior and the patient’s trust in the physician.<sup>21,23-25</sup> In order to study these issues among a sample where differences in access to healthcare are minimized, we utilized data from the Veteran Affairs (VA) medical system.

## Trust in Physician

The concept of trust in one’s physician has gained prominence over recent years as a meaningful way to assess patient–physician relationships. Trust is an important factor governing the strength of everyday relationships. Within the healthcare realm, trust has been shown to be a major component of a strong patient–physician relationship.<sup>23-25</sup> Studies have shown that a patient’s trust in his/her physician is associated with continuity of care, self-reported adherence to medication, satisfaction and improved health.<sup>25-28</sup> With regard to racial disparities, some studies have shown black patients to hold less trust in their physicians<sup>29-31</sup> than whites, while other studies have shown their trust levels to be at least as high as those of whites.<sup>32-34</sup> As the concept of trust has come to the forefront of the patient–doctor relationship, we felt it important to analyze how trust may play a role in the aforementioned racial disparities in treatment and outcomes of hypertension care.

## Physician Behavior

The effectiveness of a physician is influenced by the way he/she behaves in the presence of his/her patient. It has been noted that the manner in which a physician behaves during a patient visit has implications on how much that patient trusts their doctor.<sup>35</sup> High levels of trust are reported when patients feel their physician attempts to understand their experiences, share power, communicate clearly and obtain referrals.<sup>21,36-37</sup> Specific physician characteristics which have been shown to be associated with higher levels of trust include caring, comfort, technical competency and communication.<sup>37</sup>

In summary, the purpose of this study is to examine racial differences in the patient–physician relationship and how they relate to specific experiences with trust in the physician, and ultimately, if they are associated with blood pressure control. We will be assessing the patient–physician relationship via measurements of physician behavior and patient trust taken at one point in time. We believe more hypertension counseling behaviors will lead to higher ratings of trust and, thus, lead to more controlled blood pressure. We hypothesize that African Americans, in comparison to whites, will experience a lower frequency of positive physician behaviors, leading to lower levels of trust in their physician and higher rates of uncontrolled blood pressure.

## METHODS

Data were obtained from a study funded by the Department of Veteran Affairs Health Services Research and Development Service (HSR&D) entitled “Improving Hypertension Control: A Physician Intervention.” White and African-American patients diagnosed with hypertension were identified at three urban tertiary Department of VA medical centers. Patients with hypertension diagnoses appearing in their records on  $\geq 2$  separate visits over a one-year period (ICD9 diagnosis codes: 401: essential hypertension, 401.0: malignant, 401.1: benign, 401.9: unspecified, 405: secondary hypertension, 405.0: malignant, 405.1: benign, 405.11: renovascular, 405.19: other, 405.9: unspecified, 405.91: renovascular, 405.99: other) were eligible to participate. After applying the above-mentioned criteria, there were 11,528 hypertensive patients who were consistent users of primary care services within these three sites in the Department of VA. Research assistants tracked these patients’ primary care visits over a 14-month recruitment period, during which 1,210 of them presented to the clinics and were asked to participate in the study. Two-hundred-fifteen patients (18% of 1,210) refused participation, and a total of 204 (17% of 1,210) were excluded due to being non-African American or nonwhite ( $n=18$ ), having poor mental status ( $n=41$ ), denying hypertension ( $n=59$ ), participation in another study regarding hypertension care ( $n=6$ ), or miscellaneous reasons ( $n=80$ ). Thus, 793 patients were included in the final cohort, representing 78.6% of the 1,006 eligible patients.

## MEASURES

### Sociodemographic Characteristics

Participating patients were asked to complete a one-time research assistant-administered interview which included questions about sociodemographic characteristics, including date of birth, highest grade completed in school, employment status, marital status and income.

### Experiences with Provider

We adapted a series of questions developed by Ockene et al.<sup>38</sup> to assess the content of the patient–doctor interaction that focused on hypertension. Such patient exit interviews (PEIs) are valid ways to measure the actual content of clinic visits.<sup>39</sup> After the patient was seen by the physician, we conducted a one-time exit interview with him/her, covering the following areas:

1. Did the physician discuss hypertension and blood pressure medications during the visit?
2. Did the physician ask if the patient was taking blood pressure medications as prescribed?
3. Did the physician discuss how important blood pressure meds are for controlling blood pressure?
4. Did the physician discuss other health problems that might develop if the patient doesn't take his/her blood pressure meds?
5. Did the physician advise the patient to take blood pressure meds as prescribed?
6. Did the physician discuss the patient's prior efforts to manage his/her blood pressure meds?
7. Did the physician discuss things that get in the way of the patient taking his/her blood pressure meds?
8. Did the physician discuss things one can do to make it easier to take blood pressure meds?

9. Did the physician discuss any specific goals regarding taking blood pressure meds as prescribed?
10. Did the physician and patient agree on any specific goals for taking blood pressure meds?
11. Did the physician ask the patient to make another appointment to discuss blood pressure?
12. Did the physician provide written materials about hypertension?

Possible responses to these questions were dichotomous (yes/no). Following Ockene,<sup>38</sup> these answers were summed to create one scale score ranging from 1–12 assessing physicians' use of patient-centered counseling strategies.

### Trust in Physician

To measure the patients' trust in physician, an 11-item scale adapted from Anderson and Dedrick<sup>40</sup> and validated by Thom et al.<sup>25</sup> was utilized. The 11 items appeared on the same questionnaire administered once following the patient visit. The items appear as the following statements:

1. I doubt that my provider really cares about me as a person.
2. My provider is usually considerate of my needs and puts them first.
3. I trust my provider so much I always try to follow his/her advice.
4. If my provider tells me something is so, it must be true.
5. I sometimes distrust my provider's opinions and would like a second one.
6. I trust my provider's judgments about my medical care.

**Table 1. Sociodemographic characteristics with patient exit interview, trust in physician and blood pressure**

	Whites	African Americans	P
Number of Participants	333 (42%)	460 (58%)	
Mean Age (SD)	67.33 (±10.39)	64.43 (±10.19)	0.0001
Mean Completed Years of Education (SD)	12.25 (±2.51)	12.12 (±2.33)	0.447
Employment Status			0.146
Employed	45 (13.6%)	81 (17.6%)	
Unemployed	287 (86.4%)	378 (82.4%)	
Annual Income			0.117
<\$20k	159 (51.0%)	224 (51.7%)	
≥\$20k	146 (46.8%)	187 (43.2%)	
Don't Know	7 (2.2%)	22 (5.1%)	
Marital Status			<0.0001
Married	181 (54.5%)	172 (37.4%)	
Separated, divorced, widowed, single	151 (45.5%)	288 (62.6%)	
PEI Score (SD)	5.81 (±3.70)	6.57 (±3.68)	0.0061
Trust Score (SD)	82.47 (±10.01)	78.19 (±10.54)	<0.0001
Blood Pressure Status			0.4489
Normal	138 (43.4%)	208 (46.4%)	
High	180 (56.6%)	240 (53.6%)	

7. I feel my provider does not do everything he/she should about my medical care.
8. I trust my provider to put my medical needs above all other considerations when treating my medical problems.
9. My provider is well qualified to manage (diagnose and treat or make an appropriate referral) medical problems like mine.
10. I trust my provider to tell me if a mistake was made about my treatment.
11. I sometimes worry that my provider may not keep the information we discuss totally private.

The patients were told to respond to each statement on a five-point scale (1 = totally disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = totally agree). Negative statements (1, 5, 7 and 11) were reverse coded, and the average score for each patient was calculated and converted to a 100-point scale with higher scores representing higher trust in the physician. The end result is a trust in physician (TIP) score for each patient after a particular visit with their provider.

## Blood Pressure Control

Each patient's blood pressure was recorded at the time of the office visit taking place on the same day the questionnaire was administered. Thus, it was ensured that the blood pressure readings used in the study were taken after a minimum of 14 months of continuous primary care. Based on the blood pressure reading, each patient was placed in one of two groups: normal/controlled blood pressure or high/uncontrolled blood pressure. Group designations were based on the 7th report of the Joint National Committee on prevention, detection, evaluation and treatment of hypertension (JNC-7). The JNC-7 hypertension guidelines define high blood pressure as a systolic reading of 140 mmHg or higher and/or a diastolic reading of  $\geq 90$  mmHg.

## ANALYSES

Statistical analyses were conducted using Microsoft® Excel® 2002 modified by Analyse-it®<sup>41</sup> statistical package. Bivariate analyses were conducted using one-way ANOVAs, Pearson correlations and Chi-squared tests. Multivariate results were produced via linear regressions.

## RESULTS

Table 1 provides the participant demographic characteristics. Of the 793 participants, 333 (42%) were white and 460 (58%) were African American. Significant differences were found between the white and African-American participants in two categories: age and marital status. With regard to age, whites averaged 67.33 years, while blacks were younger, with an average of 64.43 years ( $p=0.0001$ ). Analysis of marital status showed that 181 (50.8%) of white participants were married, while only 172 (37.4%) of black participants were married ( $p<0.0001$ ). Other demographic factors such as annual income, employment status and years of education were not found to be significantly different between the groups.

## Trust Score

One-way between subjects ANOVAs, Chi-squared tests, and Pearson correlations were employed to detect significant associations between demographic factors and the TIP score (Table 2). Significantly higher rates of trust were found among white individuals versus blacks (white mean 82.47 versus black mean 78.19,  $p<0.0001$ ), and the employed versus unemployed (employed mean 82.31 versus unemployed mean 79.52,  $p=0.0067$ ). Having a higher level of education was shown to have a marginally significant association with higher trust ( $p=0.056$ ).

## PEI Score

Similarly, one-way ANOVAs, Chi-squared tests and Pearson correlations were used to examine demographic

**Table 2. Bivariate results with patient exit interview, trust in physician and blood pressure**

	Race		Marriage		Employment		Income		Age	Ed.
	Black	White	Marr.	NM	Emp.	UE	<\$20k	>\$20k	CC	
Trust Score									-0.03	0.07
Mean	78.19	82.47	80.58	79.51	82.31	79.52	79.82	80.96		
(SD)	(10.54)	(10.01)	(10.17)	(10.80)	(10.89)	(10.41)	(10.58)	(10.47)		
P value	<0.001		0.1573		0.0067		0.1489		0.3734	0.0575
PEI Score									-0.04	0.01
Mean	6.57	5.81	6.2	6.29	6.44	6.21	6.34	6.14		
(SD)	(3.68)	(3.70)	(3.54)	(3.83)	(3.41)	(3.76)	(3.81)	(3.57)		
P value	0.0062		0.7507		0.536		0.4962		0.2783	0.7746
Blood Pressure										Mean
Controlled (n)	208	138	143	203	53	292	165	144	64.74	12.08
Uncontrolled (n)	240	180	195	224	70	349	210	174	66.51	12.24
P value	0.4489		0.1704		0.6861		0.7934		0.0195	0.3415

Marr.: married; NM: Not married; Emp.: employed; UE: unemployed; CC: Pearson correlation coefficient; Ed.: education

associations with PEI scores (Table 2). A significant association was detected between race and PEI score. It was found that blacks had significantly higher PEI scores than whites (black mean 6.57 versus white mean 5.81,  $p=0.0062$ ). No other demographic factors had significant associations with the PEI score.

## Blood Pressure Control

The only demographic factor found to be associated with blood pressure control was age. Not surprisingly, older patients were more likely to have high blood pressure. A one-way ANOVA found that participants with high blood pressure averaged 66.5 years of age, while those with normal blood pressure averaged 64.7 years ( $p=0.0195$ ). No other participant characteristics were significantly associated with blood pressure control.

## Multivariate Analysis

Linear regressions were carried out in order to view specific associations between independent and dependent variables, adjusting for sociodemographic factors (Table 3). The regressions were organized to follow a logical path described by our hypothesis and depicted in Figure 1.

The first regression was designed to examine the association of the PEI score with the patient's blood pressure status. Findings from regression #1 showed that, when controlling for sociodemographic factors, higher PEI scores were associated with high blood pressure ( $p=0.0004$ ). The  $R^2$  value of 0.03 signifies that the factors included in the regression explain 3% of the variation in the blood pressure status of patients in the study. Regressions #2 and 3 were designed to examine the stepwise effects of PEI on trust, and trust on blood pressure, respectively.

Regression #2 revealed a significant direct association between PEI and trust, meaning a higher number of physician counseling behaviors were associated with higher trust scores from the patient ( $p<0.0001$ ). Other notable results from regression #2 reiterate the findings from the previous bivariate results—while controlling for the other sociodemographic factors, being white was associated with having higher trust in the physi-

cian ( $p<0.0001$ ), and employed individuals were more likely to have higher trust ( $p<0.0001$ ). The  $R^2$  for regression #2 was 0.10. Regression #3 showed that while controlling for the sociodemographic factors, blood pressure status was not significantly associated with trust in physician. Regression #4 was designed to see the combined effect of PEI and trust on blood pressure status. We observed that once again, higher PEI scores were associated with high blood pressure ( $p=0.002$ ). Interestingly, when comparing the PEI coefficients between regressions #4 (0.0175) and #1 (0.0193), we see that the inclusion of trust slightly dampens the effect of reported physician behavior on blood pressure status. In order to more closely observe the difference in the PEI/TIP relationship along racial lines, regression #5 was conducted. The results show that PEI is directly associated with trust in both whites ( $p=0.0018$ ) and blacks ( $p<0.0001$ ). Interestingly, this association was stronger for blacks (0.6985) than whites (0.5102).

## DISCUSSION

We sought to examine the role of the patient-physician relationship on racial disparities in blood pressure control within the VA medical system. We hypothesized that white patients would experience more hypertension counseling behaviors from their doctors than blacks, and this would be associated with stronger feelings of trust in their physician and more controlled blood pressure.

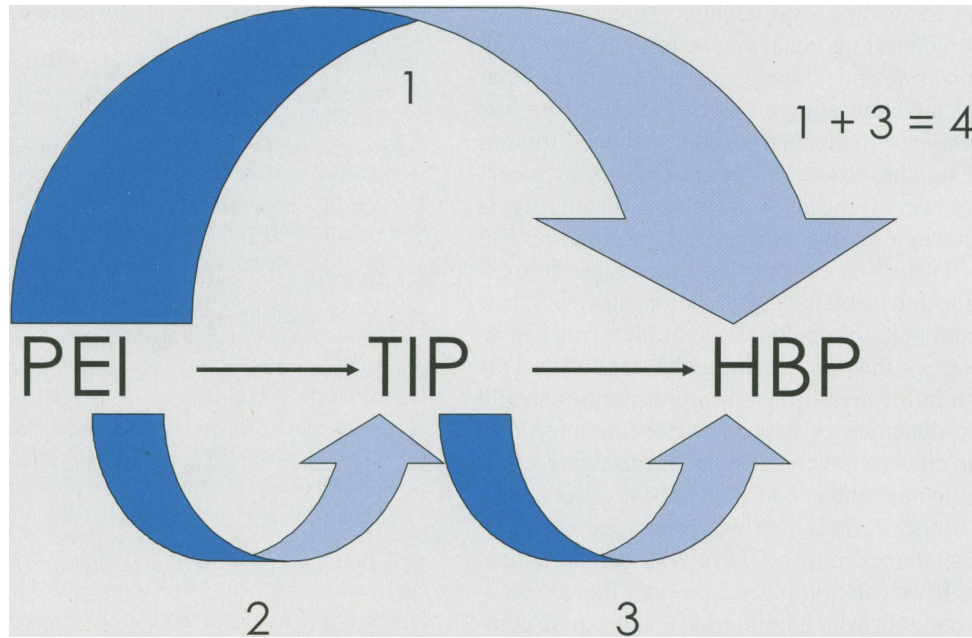
Based on our findings, we did not see a significant difference in the blood pressure status between the black and white patients in our study. This could be a result of the equal access to healthcare presented within the VA system. Similar results were recently documented by Rehman et al., who found there is a greater percentage of African-American men with controlled blood pressure in the VA system as compared with non-VA clinics.<sup>42</sup>

With regard to the PEI data measuring physician behavior, we found black patients to report more hypertension counseling behaviors than whites. This was a surprising finding because based on the current state of racial disparities in healthcare, we hypothesized that whites would experience more counseling behaviors.

**Table 3. Linear regression results**

	Independent Variables									
Dependent Variables	PEI	TIP	Race	Age	Income	Mar.	Emp.	Educ.	R <sup>2</sup>	F
1) HBP	0.019*	–	-0.043	0.004	-0.033	-0.023	-0.015	0.008	0.03	2.51*
2) TIP	0.609*	–	-4.813*	-0.032	-0.012	-0.939	-2.786*	-0.001	0.10	9.57*
3) HBP	–	0.002	-0.020	0.005*	-0.043	-0.014	-0.046	0.013	0.02	1.53
4) HBP	0.018*	0.001	-0.036	0.003	-0.039	-0.016	-0.009	0.008	0.03	2.00*
5) TIP										
Whites	0.510*	–	–	-0.163*	0.109	-0.442	-2.732	0.120	0.08	3.80*
Blacks	0.699*	–	–	0.076	-0.031	-1.483	-2.634	-0.024	0.08	4.79*

HBP: high blood pressure; \*  $p<0.05$ ; TIP: trust in physician; PEI: patient exit interview; Mar.: marital status; Emp.: employment status; Educ.: education level

**Figure 1. Hypothesis flow chart with regression designations**

This discrepancy may be a result of the increased knowledge about blacks and their high risk for hypertension and cardiovascular disease (CVD). In other words, physicians at the VA may have been making an extra effort to counsel their hypertensive black patients because of their disproportionately higher death rates from CVD.

We also found that after controlling for sociodemographic factors, higher PEI scores were associated with higher reported trust in physicians. We also noted that this association varied by race, such that a stronger link between these variables was observed for African Americans. The former findings were in agreement with our hypothesis, as we believed more counseling by the physicians would lead to stronger feelings of trust. Similar findings were recently reported by Fiscella et al., who found that physicians who spent more time with their patients and thoroughly explored their illness were trusted more.<sup>35</sup>

Unexpectedly, we found higher PEI scores to be associated with higher blood pressure. This finding might be due to a reverse relationship in which patients with uncontrolled blood pressure may have received more attention from their physicians and thus more verbal reinforcement through additional physician counseling.

Similar to previous work with physician trust,<sup>29-31</sup> we found white patients have significantly higher trust when compared with blacks. This result remained, even after controlling for all other recorded sociodemographic characteristics. We also found that, regardless of other factors, patients who were employed reported higher trust than those who were unemployed. We did not find any significant association between trust and blood pressure control.

While there were associations of PEI with blood

pressure, and PEI with trust, our results do not support the notion that PEI was linked with blood pressure through trust. Interestingly, we found that higher PEI scores were associated with higher trust among members of both races, and this association was stronger for African Americans. Despite this slightly stronger relationship, blacks still reported significantly lower trust in their physicians than did whites.

While there were meaningful findings from this study, there were some limitations which should be noted. First, the participating patient population is not representative of the entire American population due to their having equal access to medical care and being almost exclusively male ( $N=783$ , 98.7%). Additionally, this group of 793 patients was drawn from three VA sites and the results, therefore, cannot be generalized to the 25 million people eligible for VA care. Also, we could not judge the length of the relationship a patient had with a particular provider, which could have affected trust scores. In addition, the data collected in this study were from a one-time questionnaire, including all of the measures used in this study, and therefore represent a snapshot of the patients' feelings toward their physicians and blood pressure status. As a result, we are unable to conclude any causal relationships among physician behavior, trust in physician and blood pressure control.

In summary, we found no racial disparity in blood pressure control in our VA patient sample. Physician counseling behaviors were greater for African-American patients, but white patients reported a higher level of trust in their physician than did blacks. In multivariate models controlling for other sociodemographic factors, we observed

that there was a stronger association between physician counseling and trust in physician for African-American patients than for whites. Additionally, a greater number of physician counseling behaviors were associated with high blood pressure and with higher trust, but the association of physician counseling on high blood pressure was direct and was not moderated through patients' trust in their physician. These associations did not vary by race.

The presence of racial disparities in healthcare is a major hindrance to the progress of medical care in the United States. It is evident that differences do exist between white and black patients' relationships with their physicians and that this could be one of the many causes of the disparities that we see in healthcare today. Further research in the area of healthcare disparities should focus on the dynamics of patient-doctor relationship in an attempt to draw causal conclusions. If cause-and-effect differences can be found in how members of various races experience a doctor visit, then we may reveal the communication strategies most effective with certain patient populations. If we can arm physicians with the key communication methods which build trust and promote compliance, we can begin to break down portions of the racial disparities which plague America's healthcare system.

## REFERENCES

- Wenneker JB, Epstein AM. Racial inequalities in the use of procedures for patients with ischemic heart disease in Massachusetts. *JAMA*. 1989;261:253-257.
- Carlisle DM, Leake BD, Shapiro MF. Racial and ethnic differences in the use of invasive cardiac procedures among cardiac patients in Los Angeles County, 1986 through 1988. *Am J Public Health*. 1995;85:352-356.
- Williams DR, Collins C. U.S. socioeconomic and racial differences in health: patterns and explanations. *Annu Rev Sociol*. 1995;21:349-386.
- Schoenbaum M, Waidmann T. Race, socioeconomic status, and health: accounting for race differences in health. *J Gerontol B Psychol Sci Soc Sci*. 1997;52:61-73.
- Jha AK, Fisher ES. Racial trends in the use of major procedures among the elderly. *N Engl J Med*. 2005;353:683-691.
- "Protecting the Health of Minority Communities." U.S. Department of Health and Human Services Fact Sheet, dated 09/24/02.
- National Healthcare Disparities Report: Summary, 2004. Agency for Healthcare Research and Quality, Rockville, MD.
- U.S. Department of Health and Human Services: Office of Minority Health. [www.omhrc.gov/healthdisparities/index.htm](http://www.omhrc.gov/healthdisparities/index.htm). Accessed 12/01/05.
- U.S. Census Bureau: Current Population Survey, March 2002. <http://www.census.gov/population/www/socdemo/race/black.html>. Accessed 11/14/05.
- Kjellstrand CM. Age, sex, and race inequality in renal transplantation. *Arch Intern Med*. 1988;148:1305-1309.
- Yergan J, Flood AB, LoGerfo JP, et al. Relationship between patient race and intensity of hospital services. *Med Care*. 1987;25:592-603.
- Blendon RJ, Aiken LH, Freeman HE, et al. Access to medical care for black and white Americans: a matter of continuing concern. *JAMA*. 1989;261:278-281.
- Schwartz E, Kofie VY, Rivo M, et al. Black/white comparisons of deaths preventable by medical intervention: United States and the District of Columbia 1980-1986. *Int J Epidemiol*. 1990;19:591-598.
- Weissman JS, Stern R, Fielding SL, et al. Delayed access to health care: risk factors, reasons, and consequences. *Ann Intern Med*. 1991;114:325-331.
- Pappas G, Queen S, Hadden W, et al. The increasing disparity in mortality between socioeconomic groups in the United States, 1960 and 1986. *N Engl J Med*. 1993;329:103-109.
- Levine RS, Foster JE, Fullilove RE, et al. Black-white inequalities in mortality and life expectancy, 1933-1999: implications for healthy people 2010. *Public Health Rep*. 2001;116:474-483.
- Hypertension Detection and Follow-up Program Cooperative Group. Five-year findings of the Hypertension Detection and Follow-up Program. II: mortality by race, sex and age. *JAMA*. 1979;242:2572-2577.
- American Heart Association. [www.americanheart.org/presenter.jhtml?identifier=2150](http://www.americanheart.org/presenter.jhtml?identifier=2150). Accessed 11/14/05.
- American Heart Association. [www.americanheart.org/downloadable/heart/1106668161495AllAmAfAmHeartFacts05.pdf](http://www.americanheart.org/downloadable/heart/1106668161495AllAmAfAmHeartFacts05.pdf). Accessed 11/21/05.
- Wong MD, Shapiro MF, Boscardin WJ, et al. Contribution of major disease to disparities in mortality. *N Engl J Med*. 2002;347:1585-1592.
- Thom DH, Campbell B. Patient-physician trust: an exploratory study. *J Fam Pract*. 1997;44:169-176.
- Brody H. Relationship-centered care: beyond finishing school. *J Am Board Fam Pract*. 1995;8:416-418.
- Leopold N, Cooper M, Clancy C. Sustained partnership in primary care. *J Fam Pract*. 1996;42:129-137.
- Mechanic D, Schlesinger M. The impact of managed care on patients' trust in their physicians. *JAMA*. 1996;275:1693-1697.
- Thom DH, Ribisl KM, Stewart AL, et al. Validation of a measure of patients' trust in their physician: the Trust in Physician Scale. *Med Care*. 1999;37:510-517.
- Hall MA, Zheng B, Dugan E, et al. Measuring patients' trust in their primary care providers. *Med Care Res Rev*. 2002;59:293-318.
- Mostashari F, Riley E, Selwyn PA, et al. Acceptance and adherence with antiretroviral therapy among HIV-infected women in a correctional facility. *J Acquir Immune Defic Syndr*. 1998;18:341-348.
- Safran DG, Taira DA, Rogers WH, et al. Linking primary care performance to outcomes of care. *J Fam Pract*. 1998;47:213-220.
- Doescher MP, Saver BG, Franks P, et al. Racial and ethnic disparities in perceptions of physician style and trust. *Arch Fam Med*. 2000;9:1156-1163.
- Cooper-Patrick L, Gallo JJ, Gonzales JJ, et al. Race, gender, and partnership in the patient-physician relationship. *JAMA*. 1999;282:583-589.
- Kao AC, Green DC, Zaslavsky AM, et al. The relationship between method of physician payment and patient trust. *JAMA*. 1998;280:1708-1714.
- Murray-Garcia JL, Selby JV, Schmittiel J, et al. Racial and ethnic differences in a patient survey: patients' values, ratings, and reports regarding physician primary care performance in a large health maintenance organization. *Med Care*. 2000;38:300-310.
- Taira DA, Safran DG, Seto TB, et al. Do patient assessments of primary care differ by patient ethnicity? *Health Serv Res*. 2001;36:1059-1071.
- Heisler M, Smith DM, Hayward RA, et al. Racial disparities in diabetes care processes, outcomes, and treatment intensity. *Med Care*. 2003;41:1221-1232.
- Fiscella K, Meldrum S, Franks P, et al. Patient Trust: is it related to patient-centered behavior of primary care physicians? *Med Care*. 2004;42:1049-1055.
- Grumbach K, Selby JV, Damberg C, et al. Resolving the gatekeeper conundrum: what patients value in primary care and referrals to specialists. *JAMA*. 1999;282:261-266.
- Thom DH, Stanford Trust SP. Physician behaviors that predict patient trust. *J Fam Pract*. 2001;50:323-328.
- Ockene JS, Herbert JR, Ockene JK, et al. Effect of training and a structured office practice on physician-delivered nutrition counseling: the Worcester-Area Trial for Counseling in Hyperlipidemia (WATCH). *Am J Prev Med*. 1996;12:252-258.
- Pbert L, Adams A, Quirk M, et al. Luippold RS. The patient exit interview as an assessment of physician-delivered smoking intervention: a validation study. *Health Psychol*. 1999;18(2):183-188.
- Anderson LA, Dedrick RF. Development of the trust in physician scale: a measure to assess interpersonal trust in patient-physician relationships. *Psychol Rep*. 1990;67:1091-1100.
- Analyse-it for Microsoft Excel, Leeds, UK. [www.analyse-it.com](http://www.analyse-it.com).
- Rehman SU, Hutchison FN, Hendrix K, et al. Ethnic differences in blood pressure control among men at Veteran Affairs clinics and other health care sites. *Arch Intern Med*. 2005;165:1041-1047. ■